

Jonathan A. Cooper *et al.*
Appl. No. 09/486,293
Amdt. dated January 21, 2005
Reply to Restriction Requirement of July 22, 2004

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) An isolated and purified polynucleotide molecule which encodes mammalian Dab1 Disabled protein 1, or a fragment thereof, wherein the mammalian Disabled protein comprises a phosphotyrosine binding domain and is capable of associating with Src, Abl or Fyn, or a complementary sequence thereof ~~of claim 1~~.
2. (Original) The polynucleotide of claim 1, which is genomic DNA, or a cDNA sequence.
3. (Original) The polynucleotide of claim 1, which codes for murine Disabled protein 1 (mDab1).
4. (Original) The polynucleotide of claim 1, which encodes a polypeptide sequence as depicted in SEQ ID NO:3, SEQ ID NO:5, or SEQ ID NO:7.
5. (Original) The polynucleotide of claim 1, which hybridizes to an oligonucleotide of 25 or more contiguous nucleotides of SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6, or a complement of said nucleotide sequence, and which codes for a polypeptide comprising a phosphotyrosine binding domain and is capable of associating with Src, Abl or Fyn.

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6. (Original) A probe which comprises an oligonucleotide capable of specifically hybridizing with a polynucleotide sequence which encodes a mammalian Disabled protein 1, or allelic and species variants thereof.

7. (Original) The probe of claim 6, which comprises from about 15 to about 60 nucleotides in length.

8. (Original) The probe of claim 6, which further comprises a detectable signal.

9. (Original) The probe of claim 6, which comprises an oligonucleotide sequence of 15 or more contiguous nucleotides as depicted in SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6.

10. (Original) A DNA construct comprising the following operably linked elements:

a transcriptional promoter;

a DNA sequence encoding a mammalian Disabled protein 1, or a fragment thereof which comprises a phosphotyrosine binding domain and is capable of associating with Src, Abl or Fyn; and

a transcriptional terminator.

11. (Original) The DNA construct of claim 10, wherein the DNA sequence encoding a mammalian Disabled protein 1 is substantially the oligonucleotide sequence depicted as SEQ ID NO:2, SEQ ID NO:4 or SEQ ID NO:6.

12. (Original) The DNA construct of claim 10, wherein the DNA sequence encoding a mammalian Disabled protein is substantially depicted as residues 107 to 243 of SEQ ID NO:3.

13. (Original) A cultured host cell transformed or transfected with a DNA construct which comprises the following operably linked elements:

a transcriptional promoter operable in the host cell;

a DNA sequence encoding a mammalian Disabled protein 1, or a fragment thereof, which comprises a phosphotyrosine binding domain and is capable of associating with Src, Abl or Fyn; and

a transcriptional terminator operable in the host cell.

14. (Original) The host cell of claim 13, wherein the host cell is a prokaryotic or eukaryotic cell.

15. (Original) The host cell of claim 14, wherein the prokaryotic cell is a bacterial cell.

16. (Original) The host cell of claim 14, wherein the eukaryotic cell is a yeast cell or a mammalian cell.

17. (Original) The host cell of claim 13, wherein the DNA sequence encodes a murine Disabled protein 1.

18. (Original) The host cell of claim 19, wherein the DNA sequence encodes a polypeptide as depicted in SEQ ID NO:3, SEQ ID NO:5, or SEQ ID NO:7.

19. (Withdrawn) An isolated mammalian Disabled protein 1 or a fragment thereof, which comprises a phosphotyrosine binding domain and is capable of associating with Src, Abl or Fyn.

20. (Withdrawn) The mammalian Disabled protein 1 of claim 19 which is substantially pure.

21. (Withdrawn) The mammalian Disabled protein 1 of claim 19 which is murine.

22. (Withdrawn) The mammalian Disabled protein 1 of claim 19, which is substantially as depicted as SEQ ID NO:3, SEQ ID NO:5 or SEQ ID NO:7.

23. (Withdrawn) An antibody obtained from an animal immunized with the mammalian Disabled protein of claim 1.

24. (Withdrawn) The antibody of claim 23, wherein the animal is immunized with a polypeptide comprising the amino acid residue sequence substantially depicted in SEQ ID NO:3.

25. (Withdrawn) The antibody antisera of claim 23, wherein the animal is immunized with a polypeptide comprising substantially the amino acid residue sequence as depicted in SEQ ID NO:14 or as substantially depicted in SEQ ID NO:15.

26. (Withdrawn) The antibody of claim 23 which is monoclonal.

27. (Withdrawn) A method for determining the presence of mammalian Disabled protein 1 in a cell population or tissue comprising, incubating the sample with a molecule which specifically binds to mammalian Disabled protein 1 under conditions conducive to complex formation and determining therefrom the presence of the complexes.

28. (Withdrawn) The method of claim 27, wherein the molecule is an antibody.

29. (Withdrawn) The method of claim 28, wherein the antibody is a monoclonal antibody or a purified antiserum.

30. (Withdrawn) The method of claim 27, wherein the molecule is a binding partner of mammalian Disabled protein 1.

31. (Withdrawn) The method of claim 30, wherein the binding partner of mammalian Disabled protein 1 is Src, Abl or Fyn.

32. (Withdrawn) The method of claim 27, wherein the mammalian Disabled protein 1 binding partner is labeled.

33. (Withdrawn) A method for detecting the presence of, or predisposition to develop, a mammalian Disabled protein 1 associated disease in a subject, the method comprising identifying and quantifying the level of expression of mammalian Disabled protein 1 in a cell sample from the subject, comparing said identification and quantity of mammalian Disabled protein 1 expression with a normal subject, and therefrom detecting the presence of, or predisposition to develop; mammalian Disabled protein 1 associated diseases.

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34. (Withdrawn) The method of claim 33, wherein the identification and quantification of mammalian Disabled protein 1 expression is evaluated by Southern blot, Northern blot, or polymerase chain reaction analysis.

35. (Withdrawn) A method for scanning for agents capable of modulating the activity of or expression of mammalian Disabled protein 1, the method comprising assessing the ability of an agent to be tested to modulate the expression of mammalian Disabled protein or to modulate the ability of mammalian Disabled protein to associate with Src, Abl or Fyn in a cell sample as compared to a control sample to which the agent to be tested has not been added.